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Research report

Past and familial depression predict current symptoms of professional burnout

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Abstract

Background: Despite a substantial association between professional burnout and depression, the exact nature of the relationship is unclear. It is hypothesized that an underlying susceptibility for depression is associated with an enhanced risk for professional burnout. In the present study, the relationship was examined between indices of personal and familial history of depression and current symptoms of burnout.

Methods: Respondents were 3385 employees of different work settings (61% female, age 18–65 years), who completed questionnaires regarding demographic variables, working hours, personal and familial history of depression, current depressive symptomatology, and current symptoms of professional burnout.

Results: After controlling for background variables, the strongest predictor of all three burnout facets was current depressive symptomatology. Independent of the effects of background variables and current depressive symptoms, having ever experienced a depressive episode further predicted current symptoms of two burnout facets: emotional exhaustion (OR=1.82, 95% CI=1.38–2.40, $P<0.001$) and cynicism (OR=1.51, 95% CI=1.16–1.98, $P=0.002$). In addition, a history of depression in close family members independently predicted current symptoms of emotional exhaustion (OR=1.63, 95% CI=1.27–2.10, $P<0.001$), while a trend appeared for a similar effect on cynicism (OR=1.23, 95% CI=0.96–1.58, $P=0.095$).

Limitations: The study is based on a cross-sectional retrospective design.

Conclusions: A predisposition for depression, as reflected by a personal and familial history of depression, may enhance the risk for burnout.

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Keywords: Familial depression; History of depression; Professional burnout

1. Introduction

Professional burnout, a term introduced by [Freudenberger \(1974\)](#) and [Maslach \(1976\)](#), is defined as an occupational stress-related phenomenon, consisting of

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three aspects: emotional exhaustion, depersonalisation or cynicism, and a sense of a lack of personal accomplishment or professional efficacy (Maslach and Jackson, 1986). Although burnout has mostly been studied in the health care and education work settings, for which the construct of burnout was “invented” originally (Maslach, 1976), it is a highly prevalent phenomenon in a wide range of occupational settings in all industrialized societies. The overall estimates indicate that globally at least 10–20% of all employees can be classified as being burned out, causing a substantial burden for employees, employers, and the society as a whole (Golembiewski et al., 1996).

Depression is statistically closely associated with burnout, especially with the emotional exhaustion facet (e.g., Leiter and Durup, 1994; Maslach et al., 2001), the percentage of shared variance being about 20% (Glass et al., 1993; Iacovides et al., 2003). The question arises what the nature is of the association between burnout and depression. Professional burnout may generalize to other areas of life and potentially be a precursor of depression (Iacovides et al., 2003). However, it may also be hypothesized that a personal or familial susceptibility for depression may form a risk factor for developing professional burnout (Maslach et al., 2001). Indirect evidence for this hypothesis has been provided by Jenkins and Maslach (1994), who found that general psychological health in adolescence and early adulthood was associated with later functioning in interpersonally demanding jobs. As a first step to test this hypothesis directly, the aim of the present study was to examine whether a previous experience of a depressive episode and a history of depression in close family members may be associated with current symptoms of burnout, independent of current depressive symptoms.

2. Methods

2.1. Respondents

Participants were recruited among five work sites in the Netherlands: three hospitals, a metal factory, and the research division of an electronics plant. These sites were selected in order to have the opportunity to examine whether the relationships are similar in different kinds of settings. All 8094 employees

received a test booklet to be completed at their homes. Fifty-eight were returned to sender because of a wrong address. Of the remaining questionnaires, 4208 (52.4%) were returned. The response rate was highly similar for the three work settings (52.9% in the hospitals, 55.6% in the metal factory, and 49.4% in the electronics plant). Due to incomplete data, 823 sets of questionnaires were discarded from the final analyses, leaving 3385 complete sets. Of the participants, 2363 (69.8%) worked in one of the hospitals, most of them having regular contact with patients, 308 (9.1%) were workers at the metal factory, and 714 (21.1%) worked at the research division of the electronics plant. Sixty-one percent were women, 65% were between 25 and 45 years of age (total age range was 18–65), 79.8% were married or were cohabitating with a partner, and 54.9% had completed higher education. On average, participants worked 31.1 h/week (s.d.=9.6), 15.8% had irregular working hours schemes, while the mean number of years working for the current employer was 11.9 (s.d.=8.7).

2.2. Measurements

A short questionnaire containing demographic variables included questions regarding age, sex, marital status, educational level, salary, and work: working hours (number of hours working per week, and irregular working times or shifts) and the duration of employment at the organization at hand.

Current depressive symptoms were assessed with the Edinburgh Depression Scale (EDS; Cox et al., 1987, 1996). This concerns a ten-item (scored on 4-point Likert scales) self-rating scale, originally designed to assess depression in post-natal women, but which has been later validated in different age strata (Cox et al., 1996; Murray and Carothers, 1990; Nykliček et al., 2004) and in men (Matthey et al., 2001).

In addition, questions were asked regarding depressive episodes in the past and in the family: “have you ever had a depressive episode in your life?”, and “has a close member of your family (father, mother, sibling, or child) ever had a depressive episode?” These questions were answered using a yes/no format.

Burnout was measured using the Dutch general version (Schaufeli and Van Dierendonck, 2000) of

the Maslach Burnout Inventory (MBI; Maslach and Jackson, 1986). This version, which is designed for use in all kinds of work settings, consists of the following three subscales: cynicism (4 items), professional efficacy (6 items), and emotional exhaustion (5 items). The items are scored on 7-point Likert scales ranging from 0 (never) to 6 (daily). The internal consistency (lowest Cronbach's α is 0.75 for professional efficacy), 1 year test–retest reliability, and convergent and discriminant validity of the questionnaire are satisfactory (Schaufeli and Van Dierendonck, 2000).

2.3. Statistical analysis

Multiple logistic regression analyses were performed in which demographic variables, work related factors, personal and familial history of depression, and current depressive symptomatology were entered to examine which factors would predict scoring high on the burnout facets. For this purpose, the burnout and depressive symptoms variables were categorized into the following groups: scores below the median formed the reference category (below 1.25 for the total MBI scale and below 5 for EDS), while scores in the highest quartile formed the high-scorers category (Schaufeli and Van Dierendonck, 2000). The highest quartile of the EDS distribution was split further into two equally sized groups, in order to examine the potential difference in predictive power between groups differing in the severity of depressive symptoms. This yielded the following groups: those scoring 8, 9, or 10 and those scoring at least 11 on the EDS (the latter category coinciding with a traditional cut-off used before; Cox et al., 1987; Murray and Carothers, 1990). It should be noted that using different cut-off categories resulted in similar findings as reported below.

3. Results

3.1. Sample descriptives

The mean total burnout score was 1.39 (s.d.=0.85), while the means for the three subscales were 1.33 (s.d.=1.19) for emotional exhaustion, 1.08

(s.d.=1.12) for cynicism, and 4.55 (s.d.=1.17) for professional efficacy. These figures were highly similar to those obtained in other normal working samples in the Netherlands (Schaufeli and Van Dierendonck, 2000). Hospital personnel (mostly female with a high level of professional interpersonal contact) reported the most depressive symptoms ($F=11.66$, $df=2$, 3382, $P<0.001$). In contrast, the burnout scores did not differ between the professions, except a non-significant tendency for the highest total burnout scores in the research lab division and lowest scores among the metal factory workers ($F=3.69$, $df=2$, 3382, $P=0.07$).

The burnout subscales correlated only modestly to moderately with each other ($r=0.16$ between professional efficacy and emotional exhaustion, $r=0.27$ between professional efficacy and cynicism, and $r=0.55$ between cynicism and emotional exhaustion, all $P<0.001$), which is consistent with previous data (Schaufeli and Van Dierendonck, 2000). These correlations were not substantially different for the three work settings.

3.2. Bivariate relations between depression and burnout

Depressive symptoms scores correlated substantially with the total burnout score ($r=0.51$, $P<0.001$ for the whole group). This outcome was similar for the three kinds of institutions, although the correlation was slightly higher in the case of the electronics researchers and metal workers ($r=0.57$ and $r=0.55$, respectively) than for the hospital employees ($r=0.49$, all $P<0.001$). The correlations between depressive symptoms and the three burnout subscales were $r=-0.26$ (professional efficacy), $r=0.40$ (cynicism) and $r=0.49$ (emotional exhaustion; all $P<0.001$); for professional efficacy again being slightly higher in the two non-medical settings. Given these only slight differences between the three institutions, it was decided to pool all data together.

Persons who ever had depression and individuals who had a family member that ever had a depressive episode showed substantially less favourable scores on all burnout facets than individuals that did not show these characteristics ($t>3.33$, $df=3383$, all $P=0.001$; Table 1).

Table 1
Means (and s.d.) for the burnout scales depending on history of depression

Variable	Personal history of depressive episode		Familial history of depressive episode	
	No	Yes	No	Yes
Total burnout	1.29 (0.79)	1.72 (0.93)	1.32 (0.81)	1.55 (0.91)
Cynicism	0.97 (1.02)	1.46 (1.30)	1.02 (1.07)	1.25 (1.20)
Professional efficacy	4.61 (1.15)	4.36 (1.20)	4.60 (1.13)	4.45 (1.24)
Emotional exhaustion	1.19 (1.09)	1.80 (1.37)	1.24 (1.14)	1.58 (1.28)

Means are based on the mean of corresponding items; all differences are significant at $P=0.001$ ($t>3.30$).

3.3. Multivariate analyses

In the logistic regression analyses, only variables were included that showed (nearly) significant ($P<0.10$) bivariate correlations. Of the background variables, only working hours (being associated with more emotional exhaustion, but also with more feelings of professional efficacy), the number of years with the company (predicting cynicism), and age (higher age being associated with lower professional efficacy) were significant predictors of the burnout facets (Table 2). The strongest predictor of all three burnout facets was the current EDS score, with the group having more elevated depressive symptoms

scores having always a larger risk of scoring high on the burnout facet than the group with only slightly elevated depressive symptoms, which however was also strongly predictive (e.g., $OR=14.91$, 95% $CI=10.97$ – 20.26 , versus $OR=6.26$, 95% $CI=4.62$ – 8.50 , respectively, for emotional exhaustion).

However, in addition to (and independently of) current depressive symptoms, having had a previous depressive episode predicted both current emotional exhaustion and cynicism ($OR=1.82$, 95% $CI=1.38$ – 2.40 and $OR=1.51$, 95% $CI=1.16$ – 1.98 , respectively), and a history of depression in the family predicted emotional exhaustion ($OR=1.63$, 95% $CI=1.27$ – 2.10), while there was a trend ($P=0.095$) in the same direction for cynicism (Table 2).

Table 2
Results of the logistic regression analyses predicting burnout facets: final equations showing odds ratios (OR) and 95% confidence intervals (CI)

	OR	95% CI	P
<i>Lack of professional efficacy</i>			
Age	1.02	1.00–1.03	0.005
Working hours	0.97	0.96–0.98	<0.001
EDS=8, 9, 10	2.75	2.04–3.71	<0.001
EDS \geq 11	4.99	3.82–6.51	<0.001
<i>Cynicism</i>			
Years at company	1.35	1.22–1.49	<0.001
EDS=8, 9, 10	5.09	3.77–6.88	<0.001
EDS \geq 11	8.55	6.40–11.43	<0.001
History of depression	1.51	1.16–1.98	0.002
Familial depression	1.23	0.96–1.58	0.095
<i>Emotional exhaustion</i>			
Working hours	1.05	1.04–1.07	<0.001
EDS=8, 9, 10	6.26	4.62–8.50	<0.001
EDS \geq 11	14.91	10.97–20.26	<0.001
History of depression	1.82	1.38–2.40	<0.001
Familial depression	1.63	1.27–2.10	<0.001

Only significant and marginally significant effects are depicted.

4. Discussion

4.1. Main findings

After controlling for demographic and work-related factors, current depressive symptoms were the strongest predictor of all three burnout facets. More importantly, a personal history of a depressive episode and family history of depression predicted the emotional exhaustion and, to a lesser extent, cynicism components of burnout, over and above the effect of current depressive symptomatology. These results indicate that a susceptibility for depression may consist a risk factor for the development of professional burnout.

The strong predictive power of current depressive symptoms is not surprising. The substantial correlations between facets of burnout and depressive symptoms, especially regarding emotional exhaustion, have been found in previous, smaller, studies with the proportion of shared variance between burnout and

depression estimated to be 20–25% (Glass et al., 1993; Iacovides et al., 2003).

The exact nature of the relationship between depression and burnout cannot be determined from the cross-sectional and retrospective data presented here. The possibility that burnout is merely a specific form of depression confined to the work setting cannot be excluded, but seems unlikely given the substantial portion of variance that is unique for both constructs (Iacovides et al., 2003). It also cannot be excluded that burnout may form a risk for the development of a depressive episode, while at the same time burned-out persons may have a better memory for past negative mood states of one's own and of one's family members. However, in the present study, it seems that recall bias due to current negative mood states has largely been accounted for by statistical control for current depressive symptomatology. An alternative explanation is that good mental health, including absence of (a vulnerability to) depression, protects against work stress, attenuating the risk to get involved in the burnout process. Unfortunately, longitudinal data, needed to answer this question, have been largely absent and to our knowledge there has been none investigating depression as a potential predictor of burnout. Jenkins and Maslach (1994) found that being psychologically healthy in adolescence and early adulthood predicted successful and satisfactory functioning in interpersonally demanding jobs. In addition, Piedmont (1993) obtained evidence for neuroticism predicting burnout longitudinally. However, this study was based on 29 individuals only. The present data support the notion that psychological vulnerability may be associated with the risk for burnout, since a previous depressive episode and even familial depression predicted current burnout symptoms, independently of current depressive symptoms.

4.2. Differential associations for the burnout facets

The finding that associations with depression (current, past, and familial) were strongest in the case of emotional exhaustion and the least strong for professional efficacy suggests several possible explanations. One would involve a difference in conceptual overlap: depression being closest to emotional exhaustion, while sharing the least commonalities with profes-

sional efficacy. This is undoubtedly the case, since dysphoric symptoms are the core symptoms of both emotional exhaustion and depression (Maslach et al., 2001).

An alternative, or perhaps rather complementary, explanation may involve a difference in the causal association between a depressive susceptibility factor and the three burnout facets, with depression being the strongest risk factor for emotional exhaustion, while other (professional) factors being relatively more important for the development of the other factors, particularly feelings of professional inefficacy. To date clear empirical support for this view is lacking (Maslach et al., 2001; Tennant, 2001).

A final explanation may involve the time sequence of developing a burnout. Those symptoms of burnout that occur first may be expected to have a higher probability of showing a correlation with a susceptibility factor, than symptoms that develop later in the process. The burnout process has indeed been suggested to take place along the following time line: emotional exhaustion would emerge first, leading to taking an emotional distance from one's job as a coping mechanism (cynicism), resulting in the end in a reduced sense of professional efficacy (Maslach et al., 2001). Future studies will have to apply longitudinal designs in order to be able to answer these questions of time sequence and causality (Thomas, 2004).

4.3. Study limitations

Response rate was not high (52.4%), yet satisfactory considering the fact that it concerned a large-scale investigation without the use of incentives or reminders. In addition, since there were no differences in response rate across work settings, it seems unlikely that a systematic bias could have meaningfully influenced the results.

The present study has applied a cross-sectional retrospective design, which does not permit any firm conclusions regarding the direction of causality between depression and facets of burnout. Since the data on personal and family history of depression were obtained by self-reports, these data may have been biased. A major cause of this bias would be the recall of past and familial depression, which may be distorted by having depressive symptoms at the pre-

sent. However, our results showed an effect of personal and family history of depression on current symptoms of burnout (emotional exhaustion and cynicism) *independent* of current depressive symptomatology. Thus, the major cause of this recall bias has been corrected for in the analyses. Nevertheless, longitudinal studies are needed to confirm our present findings, which point at the possibility that a genetic or environmental susceptibility for depression is a risk factor for developing burnout. Finally, the inclusion of work stressors, such as work demands, role conflict, and lack of social support, which have been shown to be associated with symptoms of burnout (Posig and Kickul, 2003), is strongly recommended in future studies.

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References

- Cox, J.L., Holden, J.M., Sagovsky, R., 1987. Detection of postnatal depression: development of the 10-item Edinburgh Postnatal Depression Scale. *Br. J. Psychiatry* 150, 782–786.
- Cox, J.L., Chapman, G., Murray, D., Jones, P., 1996. Validation of the Edinburgh Postnatal Depression scale (EPDS) in non-postnatal women. *J. Affect. Disord.* 39, 185–189.
- Freudenberger, H.J., 1974. Staff burnout. *J. Soc. Issues* 30, 159–165.
- Glass, D.C., McKnight, J.D., Valdimarsdottir, H., 1993. Depression, burnout, and perceptions of control in hospital nurses. *J. Consult. Clin. Psychol.* 61, 147–155.
- Golembiewski, R.T., Boudreau, R.A., Munzenrider, R.F., Luo, H., 1996. *Global Burnout: A Worldwide Pandemic Explored by the Phase Model*. JAI Press, Greenwich, CT.
- Iacovides, A., Fountoulakis, K.N., Kaprinis, S., Kaprinis, G., 2003. The relationship between job stress, burnout and clinical depression. *J. Affect. Disord.* 75, 209–222.
- Jenkins, S.R., Maslach, C., 1994. Psychological health and involvement in interpersonally demanding occupations: a longitudinal perspective. *J. Organ. Behav.* 15, 101–127.
- Leiter, M.P., Durup, J., 1994. The discriminant validity of burnout and depression: a confirmatory factor analytic study. *Anxiety Stress Coping* 7, 357–373.
- Maslach, C., 1976. Burned-out. *Human Behav.* 5, 16–22.
- Maslach, C., Jackson, S.E., 1986. *MBI: Maslach Burnout Inventory: Manual Research Edition*, 2nd ed. Consulting Psychologists Press, Palo Alto, CA.
- Maslach, C., Schaufeli, W.B., Leiter, M.P., 2001. Job burnout. *Annu. Rev. Psychol.* 52, 397–422.
- Matthey, S., Barnett, B., Kavanagh, D.J., Howie, P., 2001. Validation of the Edinburgh Post-natal Depression Scale for men, and comparison of item endorsement with their partners. *J. Affect. Disord.* 64, 175–184.
- Murray, L., Carothers, A.D., 1990. The validation of the Edinburgh Post-natal Depression Scale on a community sample. *Br. J. Psychiatry* 157, 288–290.
- Nyklíček, I., Scherders, M.J., Pop, V.J., 2004. Multiple assessments of depressive symptoms as an index of depression in population-based samples. *Psychiatry Res.* 128, 111–116.
- Piedmont, R.L., 1993. A longitudinal analysis of burnout in the health care setting: the role of personal dispositions. *J. Pers. Assess.* 61, 457–473.
- Posig, M., Kickul, J., 2003. Extending our understanding of burnout: test of an integrated model in nonservice occupations. *J. Occup. Health Psychol.* 8, 3–19.
- Schaufeli, W.B., Van Dierendonck, D., 2000. *UBOS: Utrechtse Burnout Schaal: Handleiding [Manual of the Dutch version of the Maslach Burnout Inventory]*. Swets and Zeitlinger, Lisse, The Netherlands.
- Tennant, C., 2001. Work-related stress and depressive disorders. *J. Psychosom. Res.* 51, 697–704.
- Thomas, N.K., 2004. Resident burnout. *JAMA* 292, 2913–2915.